

AMENDMENT

U.S. Appln. No. 09/555,945

2489-1-001

reviewed below, are believed to be favorably responsive to the issues raised in the outstanding action.

Claims 1, 4-7, 9, 11, 14-17 and 19 have been rejected under 35 U.S.C. §103 (a) as unpatentable over Kneezel in view of Ishinaga et al. This rejection is believed to be mooted and overcome by the presentation of new claims 21 and 28, and withdrawal thereof is requested.

In particular, the claims now recite in their final paragraphs that

"the printing modules are arranged in parallel with a degree of nonalignment with respect to each other and obliquely with respect to the trajectory of the flat article, such that the marking width of each printing module extends to the marking width of at least one adjacent printing module."

The above recitation as to the arrangement of the printing modules as set forth in claims 21 and 28 is depicted in Figure 2 of the present application, and is nowhere found in either of Kneezel or Ishinaga et al.

Claims 8 and 18 have been rejected under 35 U.S.C. §103 (a) as unpatentable over Kneezel in view of Kanemitsu. As this rejection may pertain to the claims as amended, it is traversed.

AMENDMENT

U.S. Appln. No. 09/555,945

2489-1-001

The recitations in Claims 21 and 28 exceed the combined disclosures of Kneezel and Kanemitsu, as neither discloses the features set forth therein. The Kanemitsu apparatus shows only the connection of a host computer to a printing apparatus and is otherwise unrelated to the printing apparatus of Kneezel, let alone that of the present invention. Withdrawal of this rejection is therefore, believed to be in order and is requested.

Claims 2, 3, 10, 12, 13 and 20 have been rejected under 35 U.S.C. §103 (a) as unpatentable over Kneezel in view of Ishinaga et al., further in view of Ohno et al. As this rejection may pertain to the claims as amended, it is traversed.

The disclosures of Kneezel and Ishinaga et al. have been discussed above, and their deficiencies have been noted. Such discussion is incorporated herein and made a part hereof.

In reviewing Kneezel in this ground of rejection, the examiner contends that Kneezel, in Figure 3 thereof, discloses that the marking widths of the modules extend to the marking width of an adjacent module with a degree of nonalignment since some modules are placed on one face of the print bar, while other modules are placed on the other face of the print bar. The examiner however, admits that Kneezel does not disclose the modules arranged obliquely with respect to the trajectory of the substrate, but

AMENDMENT

U.S. Appln. No. 09/555,945

2489-1-001

contends that Ohno et al. discloses that aligning recording elements obliquely to the traveling direction of the substrate increases the print density. The examiner thus concludes that it would have been obvious to incorporate the teachings of Ohno et al. into the presumed 'invention' that results from the combination of the teachings of Kneezel and Ishinaga et al.

Ohno et al. disclose printing elements that are aligned obliquely to the traveling direction of the substrate. The disclosure concerning such an oblique alignment is however, limited to what is stated in column 9, lines 9-16 of Ohno et al., where it is stated that

"...in order to obtain increased density, the recording elements 6 are aligned oblique to the traveling direction of the recording member 5 as shown in FIG. 16"

and that

"...with the use of the drawing unit 4 employing a plurality of sets of recording elements aligned askew as depicted in FIG. 17, a picture can be obtained in such a manner as shown in FIG. 18."

As readily apparent from Figure 16 of Ohno et al., what is oblique is not the arrangement of a plurality of independent

AMENDMENT

U.S. Appln. No. 09/555,945

2489-1-001

printing modules, as is the case in the instant invention, but a plurality of injectors 5 arranged on one single printing module.

Accordingly, assuming arguendo that a combination of Ohno et al. with Kneezel and Ishinaga et al. can be made, which applicant submits is not proper from a consideration of the respective references, each printing module would be provided with an independent processor and an independent memory, and would therefore result in a device wherein the printing modules would be arranged alternately on the upper and lower faces of the printing head, and wherein each printing module would be provided with a plurality of obliquely arranged ink injectors.

In such a device the printing modules while non aligned in the sense of being arranged alternately on the upper and lower faces of the printing head, would not be arranged obliquely to the traveling direction of the substrate inasmuch as only the ink injectors of each printing module would be arranged in oblique rows. Thus, the construction of the printing device of the invention, particularly as set forth in new claims 21 and 28, would be neither shown nor fairly suggested from the combined disclosures of Kneezel, Ishinaga et al. and Ohno et al., so that withdrawal of this rejection as it might be applied against the claims as amended, is believed to be in order and is requested.

AMENDMENT

U.S. Appln. No. 09/555,945

2489-1-001

In addition, the printing device of the present invention demonstrates several advantages over the hypothetical device that might result from the combination of Kneezel, Ishinaga et al. and Ohno et al., among them that print density can be easily increased without resorting to the use of the more numerous and complex printing modules of Ohno et al., and that the printing modules themselves need not have obliquely disposed injectors to be able to cover a wide area of the tile workpiece. Moreover, these advantages are achieved without the need for extensive space on the printing head as a result of the oblique arrangement of the printing modules, all as set forth in the new claims. These advantages are submitted to represent further basis of patentability of the presently claimed device over the device that might be prepared in accordance with the cited references.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. Accordingly, reconsideration and withdrawal of the outstanding grounds of rejection and early issuance of a Notice of Allowance are believed to be in order and are respectfully requested.

Should the Examiner deem that there are any issues which may be best resolved by telephone communication, he is respectfully

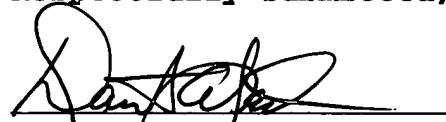
AMENDMENT

U.S. Appln. No. 09/555,945

2489-1-001

requested to telephone Applicants' undersigned Attorney at the number listed below.

Respectfully submitted,



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Enclosure - Two-Month Extension of Time